

WHAT IS CLAIMED IS:

- 1. A negative-working photoresist composition which comprises, as a uniform solution in an organic solvent:
- (A) 100 parts by weight of an alkali-soluble resin;
- (B) from 0.5 to 20 parts by weight of an onium salt compound selected from the group consisting of iodonium salt compounds and sulfonium salt compounds, of which the anionic moiety is a fluoroalkyl sulfonate anion as a radiation-sensitive acidgenerating agent; and
- (C) from 3 to 50 parts by weight of an ethyleneurea compound represented by the general formula

$$R^1$$
-CH $\frac{C}{C}$ N—CH $_2$ -R 2

in which R^1 and R^2 are each a hydroxyl group or an alkoxy group having 1 to 4 carbon atoms and R^3 and R^4 are each a hydrogen atom, a hydroxyl group or an alkoxy group having 1 to 4 carbon atoms, as a crosslinking agent.

- 2. The negative-working photoresist composition as claimed in claim 1 in which the fluoroalkyl sulfonate anion in the component (B) is a perfluoroalkyl sulfonate anion having 1 to 10 carbon atoms.
- 3. The negative-working photoresist composition as claimed in claim 1 in which the alkali-soluble resin as the component (A) is a copolymer of hydroxystyrene and styrene consisting of from 60 to 97% by moles of hydroxystyrene units and from 40 to 3% by moles of styrene units, a copolymer of hydroxystyrene and styrene consisting of from 60 to 97% by moles of hydroxystyrene units and from 40 to 3% by moles of styrene

units substituted by alkali-insoluble groups for from 5 to 30% of the hydroxyl groups or a polyhydroxystyrene substituted by alkali-insoluble groups for from 3 to 40% of the hydroxyl groups.

- 4. The negative-working photoresist composition as claimed in claim 3 in which the alkali-insoluble group is an alkyl group having 1 to 4 carbon atoms.
- 5. The negative-working photoresist composition as claimed in claim 1 in which at least one of the groups denoted by R^1 and R^2 is an alkoxy group having 1 to 4 carbon atoms, the rest, if any, being a hydroxyl group, and the groups denoted by R^3 and R^4 are each a hydrogen atom.
- 6. The negative-working photoresist composition as claimed in claim 1 which further comprises: (D) from 0.01 to 1.0 part by weight of an aliphatic amine compound per 100 parts by weight of the component (A).
- 7. The negative-working photoresist composition as claimed in claim 6 in which the aliphatic amine compound is selected from the group consisting of trialkyl amine compounds, dialkyl amine compounds, trialkanol amine compounds and dialkanol amine compounds, of which the alkyl group or alkanol group has 1 to 5 carbon atoms.
- 8. The negative-working photoresist composition as claimed in claim 1 which further comprises: (E) from 0.01 to 1.0 part by weight of a carboxylic acid per 100 parts by weight of the component (A).
- 9. The negative-working photoresist composition as claimed in claim 8 in which the component (E) is selected from the group consisting of malonic acid, citric acid, malic acid, succinic acid, benzoic acid and salicylic acid.

- 10. The negative-working photoresist composition as claimed in claim 1 in which the organic solvent is a mixture of propyleneglycol monomethyl ether and propyleneglycol monomethyl ether acetate in a mixing ratio in the range from 50:50 to 80:20 by weight.
- 11. A photosensitive material for patterning of a photoresist layer which comprises, as an integral layered body:
- (a) a substrate;
- (b) a water-insoluble organic anti-reflection coating film formed on the surface of the substrate; and
- (c) a photoresist layer formed on the anti-reflection coating film from a photoresist composition as defined in claim 1.
- 12. The photosensitive material for patterning of a photoresist layer as claimed in claim 11 in which the anti-reflection coating film has a thickness in the range from 30 to 300 nm.
- 13. The photosensitive material for patterning of a photoresist layer as claimed in claim 11 in which the photoresist layer has a thickness in the range from 200 to 500 nm.
- 14. The photosensitive material for patterning of a photoresist layer as claimed in claim 11 which further comprises: (d) a water-soluble anti-reflection coating film formed on the photoresist layer.
- 15. The photosensitive material for patterning of a photoresist layer as claimed in claim 14 in which the water-soluble anti-reflection coating film has a thickness in the range from 35 to 45 nm.